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09/664,118

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Todd L. Lydic

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EXAMINER

LE, MARK T

ART UNIT

PAPER NUMBER

3617

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GROUP 3600

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/664,118
Filing Date: September 18, 2000
Appellant(s): LYDIC ET AL.

Blynn L. Shideler
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 21, 2006 appealing from the Office action mailed November 8, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

Appeal Number 2002-0694, mailed February 04, 2003, which is a part of Application No. 08/712,369, filed on September 11, 1996.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,367,958 WEISS et al 11-1994

"PLASTIC DEFORMATION OF STEEL", Chapter 19, pages 385-390. No date.

(9) Grounds of Rejection

The following ground of rejection is applicable to the appealed claims:

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss (US 5,367,958) in view of Chapter 19 documentation.

Weiss discloses a gondola rail car with center sill 16 similar to that recited in the instant claims; however, Weiss is silent as to whether the center sill is cold formed. It is noted that metal shaping by cold forming is well known (note for example Chapter 19 documentation), and it would have been obvious to one skilled in the art to process the center sill of Weiss by a well known method of cold forming so as to achieve the expected advantages thereof, i.e. improved mechanical properties, better machinability, enhance size accuracy, brighter surface, and the ability to produce the structure at a thinner gage for lighter weight.

Regarding the instant claimed material thickness of the sill as recited in instant claims 4 and 11, or the instant claimed weight of the sill, as recited in instant claims 5 and 12, noted that the strength of a beam or sill is generally proportional to the material thickness and the weight of the structure, e.g. given two beams of similar structures but only different in the material thickness and weight, the beam with thicker material and greater weight is inherently stronger than the other beam. Accordingly, as a matter of design choice it would have been obvious to one skilled in the art to form the sill of

Weiss from a known material, such as a common construction steel sheet, with a selected material thickness and weight, including a thickness between 3/8 inch and 5/8 inch and a weight of less than 80lbs/ft, so as to achieve the corresponding strength of the sill for providing an expected corresponding load carrying capacity of the railcar. Applicant should further note that in the case of the center sill of Weiss that is made by cold forming, as described above, the resulted sill structure would have an increased strength and hardness; therefore, the sill may be made at a thinner gauge and lighter weight while still maintains the same strength as if it were made otherwise by a different method.

Regarding the center sill being formed without weld seams, as recited in instant claims 6, 8 and 15, note that Weiss does not show nor describe his center sill as having weld seams; therefore, it would not be proper to insist otherwise.

Regarding the instant claimed center sill having four work hardened corners, as recited in instant claims 13 and 19, note that the center sill of Weiss has four corners as claimed. As to the corners being hardened, note that the hardness of the corners of the center sill of Weiss is inherently affected to some degrees through the cold work process of shaping such corners.

Regarding the instant claimed bottom wall portions extending inwardly from one side edge, as recited in instant claim 14, consider Figure 3 of Weiss; wherein, each the bottom flanges of Weiss is readable as being extending inwardly from one side edge of the sill or from one side edge of the bottom portion of a side wall of the sill.

(10) Response to Argument

Regarding Appellant's argument that prior to Appellant's disclosure, there was no known method of cold forming railcar center sills, and that Chapter 25 documentation teaches away from cold forming a railcar center sill, it should be noted that Chapter 25 documentation was not used as basis for the above ground of rejection, and that Chapter 25 documentation, i.e. in the fourth paragraph, column 1, page 720, may have suggested an alternative method of forming the center sills for modern railroad cars, but it certainly does not suggest that such method is the only way that a railcar center sill can be formed. Chapter 25 documentation does not even suggest that there may be disadvantages associating with cold forming a center sill. Therefore, Chapter 25 documentation can be at most taken as a suggestion of an alternative way of forming a center sill of a modern railroad car, but it certainly cannot be viewed as a teaching against cold forming of a center sill. It should be noted again that the concept of forming structural members by cold works is well known for the expected advantages thereof, i.e. improved mechanical properties, better machinability, enhance size accuracy, brighter surface, the ability to produce the structure at a thinner gage for lighter weight, etc...; and that Chapter 19 documentation was cited as an evidence of such well known concept. To further illustrate such well known concept of cold working structural members, as a response to Appellant's argument, Appellant should consider Ragsdale (US 2,243,808), column 1, lines 7-9, wherein it states that rail cars are known to be made of high tensile metal, such as cold worked steel or aluminum so as to

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achieve lighter weight as comparing to standard railway cars; and column 1, lines 30-40 of Ragsdale; wherein, it states that the object of the invention is to use high tensile stainless steel cold drawn so as to increase strength and safety while reducing weight; and Appellant should further consider Ridgway (US 2,621,059), column 5, lines 21-26; wherein, longitudinal sills 48 and cross member 34 of the underframe of a land vehicle may be made of stainless steel strengthened by cold working. In summary, Chapter 19 documentation, Ragsdale and Ridgway are clear exemplary of the well known concept of cold working structural members.

Regarding Appellant's argument that Weiss (JAC Patent) does not suggest "TWO PIECE COLD FORMED CENTER SILL with no more than one weld seam as defined in claim 2", it should be noted that claim 2 does not call for "TWO PIECE", instead, claim 2 calls for two sections and no more than one weld seam connecting the two sections, which is broad enough to read on the structure of Weiss, which includes at least "two sections", i.e. a right section and a left section, or top, side and bottom sections, that are integrally formed with no weld seam, as shown in Figure 3 of Weiss.

Regarding Appellant's argument that Weiss (JAC Patent) does not suggest the instant claimed thinner thickness and lighter weight, it is agreed that Weiss does not make such a suggestion; however, the above ground of rejection is not made on the basis of Weiss alone, but rather on a combination of Weiss's structure and the well known of concept of cold forming structural members. Therefore, Weiss's structure, as

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modified, which includes a center sill formed by cold works, would result in a structural member that is thinner and lighter, which are the expected benefits of cold forming.

Regarding Appellant's argument directed to the instant claimed four work hardened corners, recited in claim 13, and Appellant's argument that the corners of Weiss, as modified, could be the connection points between separate sections, these arguments are not deemed persuasive because Weiss does not suggest separate sections of the center sill being connected together via connection points. Appellant should note that since the center sill of Weiss, as modified, is formed and hardened by cold works, the sections or parts thereof, including the four corners of the center sill, are in effect hardened by the same cold works that form the sill.

(11) Related Proceeding(s) Appendix

Copies of the court or Board decision(s) identified in the Related Appeals and Interferences section of this examiner's answer are provided herein (see attachment Appeal No. 2002-0694).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



Mark Le

 9/26/06

Conferees:

Samuel Morano

Lesley Morris

Attachment: Appeal No. 2002-0694

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 26

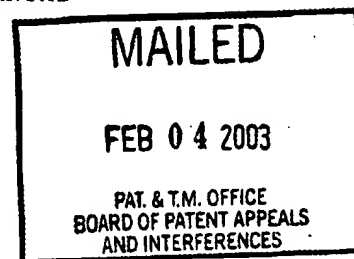
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TODD L. LYDIC and TAMO BIANCHI

Appeal No. 2002-0694
Application No. 08/712,369

ON BRIEF



Before COHEN, NASE, and BAHR, Administrative Patent Judges.
COHEN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 19, 29 through 31, and 33. These claims constitute all of the claims remaining in the application.

Appellants' invention pertains to a center sill for a railroad car, a beam for use with the underframe of a vehicle, and to a center sill for use with the underframe of a railroad car. A basic understanding of the invention can be derived from

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a reading of exemplary claims 1, 14, and 19, respective copies of which appear in the "APPENDIX A" of the main brief (Paper No. 20).

As evidence of anticipation and obviousness, the examiner has applied the documents listed below:

Slick	1,279,600	Sep. 24, 1918
Heap	4,254,714	Mar. 10, 1981
Meyer	5,157,883	Oct. 27, 1992

The following rejections are before us for review.

Claims 1, 3 through 5, 10 through 12, 14 through 17, 29, and 31 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Slick.

Claims 1, 3 through 5, 14 through 17, and 29 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Heap.

Claims 2, 13, and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Slick.

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Claims 6 through 9, 18, 19, and 33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Heap in view of Meyer.

The full text of the examiner's rejections and response to the argument presented by appellants appears in the answer (Paper No. 21), while the complete statement of appellants' argument can be found in the main and reply briefs (Paper Nos. 20 and 23).

OPINION

In reaching our conclusion on the anticipation and obviousness issues raised in this appeal, this panel of the board has carefully considered appellants' specification and claims, the applied teachings,¹ and the respective viewpoints of

¹ In our evaluation of the applied prior art, we have considered all of the disclosure of each document for what it would have fairly taught one of ordinary skill in the art. See In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966). Additionally, this panel of the Board has taken into account not only the specific teachings, but also the inferences which one skilled in the art would reasonably have been expected to draw from the disclosure. See In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

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appellants and the examiner. As a consequence of our review, we make the determinations which follow.

The anticipation rejections

We do not sustain the rejection of claims 1, 3 through 5, 10 through 12, 14 through 17, 29, and 31 under 35 U.S.C. § 102(b) as being anticipated by Slick.

Independent claims 1, 14, and 29 address at least the following features. Claim 1 requires a cold formed center sill being formed from a single flat member. Claim 14 specifies a beam comprising a one piece cold formed steel member. Claim 29 sets forth a center sill comprising a steel member having an elongated body with portions interconnected by cold hardened curved portions.

Like the examiner, we readily appreciate the relevance of the Slick patent to the now claimed subject matter. More specifically, this panel of the Board perceives that one versed in the center sill art would comprehend the center sill 3 of Slick (Fig. 3) as being configured of one piece pressed or rolled

steel. However, the Slick reference fails to disclose cold forming or cold hardening, which we understand to be processes which do render a resulting workpiece with distinguishable characteristics that are discernible in the formed workpiece.² Since the Slick reference, in and of itself, does not expressly teach or inherently require cold forming or hardening in fabricating the disclosed rolled steel center sill, the evidence before us does not support an anticipation rejection of appellants' claims. It is for this reason that the rejection under 35 U.S.C. § 102(b) founded upon the Slick patent cannot be sustained.

We do not sustain the rejection of claims 1, 3 through 5, 14 through 17, and 29 under 35 U.S.C. § 102(b) as being anticipated by Heap.

² Appellants have attached a copy of an earlier submitted Chapter 19 ("PLASTIC DEFORMATION OF STEEL") from a text ("The Making, Shaping and Treating of Steel") which is indicated to be the authoritative reference work in the steel industry (main brief, page 6). The Chapter 19 documentation informs us of the knowledge and level of skill in the art, at the time of appellants' invention, as to hot and cold working processes pertaining to steel.

Simply stated, we find that the Heap patent is silent as to the fabrication of the continuous center sill 20 (Fig. 3). Thus, the teaching of Heap, lacking any disclosure of cold forming or hardening, clearly cannot support the rejection of appellants' claims as being anticipated thereby. For the foregoing reason, we do not sustain the anticipation rejection based upon the Heap patent.

The obviousness rejections

We do not sustain the rejection of claims 2, 13, and 30 under 35 U.S.C. § 103(a) as being unpatentable over Slick.

Dependent claims 2, 13, and 30 address specific yield strength, thickness ranges, and strength and thickness, respectively, of a center sill that is cold formed or cold hardened. We earlier addressed the circumstance, however, that the Slick reference, in and of itself, does not expressly teach or inherently require cold forming or hardening in fabricating the disclosed rolled steel center sill. Since the sole reference relied upon lacks a teaching of cold forming or hardening a

center sill, parameters for a fabricated center sill resulting from such processes, as now claimed, would not have been obvious.

We do not sustain the rejection of claims 6 through 9, 18, 19, and 33 under 35 U.S.C. § 103(a) as being unpatentable over Heap in view of Meyer.

From our perspective, the applied evidence, collectively considered, would not have been suggestive of the rejected dependent claims at issue. First, the Heap document lacks a disclosure of cold forming or hardening of a center sill or beam and any suggestion therefor, as now claimed. Second, the Meyer document does not overcome the deficiency of the Heap reference. We do not share the examiner's view (answer, page 6) that appellants' center sill or beam for use with the underside of a vehicle is essentially in the same field as Meyer's structural frame (metal wall stud).³

³ The test of whether a reference is from a nonanalogous art is first, whether it is within the field of the inventor's endeavor, and second, if it is not, whether it is reasonably pertinent to the particular problem with which the inventor was involved. See In re Wood, 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979). A reference is reasonably pertinent if, even though it may be in a different field of endeavor, it is one which
(continued...)

REMAND TO THE EXAMINER

We remand this application to the examiner to consider a rejection of appellants' claims based upon the combined teachings of Slick and the Chapter 19 documentation of record. The examiner should determine whether it would have been obvious to one having ordinary skill in the art, at the time appellants' invention was made, to select cold rolling from among the known hot rolling and cold rolling method alternatives (Chapter 19 documentation) when fabricating the rolled steel center sill of Slick to achieve the desired, known, and expected advantages of the cold rolling method that would be reflected in the characteristics of the resulting center sill. As to the chosen particular parameters and configuration for a cold worked center sill (dependent claims), the examiner should determine whether these features would have been obvious to one having ordinary skill in the center sill and beam art, relying upon relevant and

³(...continued)
because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem. **In re Clay**, 966 F.2d 656, 659, 23 USPQ2d 1058, 1061 (Fed. Cir. 1992).

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reasonably pertinent evidence and/or a sound technical line of reasoning.


In summary, this panel of the board has not sustained any of the rejections on appeal. Further, we have remanded the application to the examiner to consider the matter discussed above.

The decision of the examiner is reversed.

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Application No. 08/712,369

REVERSED AND REMANDED

IRWIN CHARLES COHEN
Administrative Patent Judge


JEFFREY V. NASE
Administrative Patent Judge


JENNIFER D. BAHR
Administrative Patent Judge

BOARD OF PATENT
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ICC/lbg

Appeal No. 2002-0694
Application No. 08/712,369

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